

AMENDMENTS TO THE CLAIMS

The following listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1. (Currently Amended) A liquid transfer apparatus comprising:
a capillary for aspirating liquid from one end thereof by means of capillarity;
a pressure mechanism for pressurizing an inside of the capillary from ~~the~~ an other end of the capillary; and
a connection mechanism for bringing the other end of the capillary into at least one of: an ambient pressure state or a state in which the outer other end of the capillary is connected to the pressure mechanism, wherein the connection mechanism comprises:
a capillary support member adapted for hermetic contact with an outer periphery of the capillary, said capillary support member having an elastic member for hermetically securing the capillary; and
a pressure unit removably connected to the capillary support member, wherein the pressure unit forms a hermetic space between the other end of the capillary and the pressure mechanism when connected to the capillary support member, and wherein the pressure unit has a first pressure chamber with a diaphragm on one wall surface thereof for pressurizing an inside of the capillary from the other end of the capillary, and a second pressure chamber connected to the

pressure mechanism for urging the diaphragm toward the first pressure chamber
and pressurizing an inside of the first pressure chamber.

2. (Currently Amended) The liquid transfer apparatus according to claim 1, wherein the connection mechanism comprises:

a hermetic space formation member for forming a the hermetic space between the other end of the capillary and the pressure mechanism; and

a switching mechanism for bringing the hermetic space into one of: a sealed state ~~or into the~~ and an ambient pressure state by means of switching action thereof.

3. (Currently Amended) A liquid transfer apparatus comprising:
a capillary for aspirating liquid from one end thereof by means of capillarity;
a pressure mechanism for pressurizing an inside of the capillary from an other
end of the capillary;
a connection mechanism for bringing the other end of the capillary into at
least one of: an ambient pressure state and a state in which the other end of the
capillary is connected to the pressure mechanism~~The liquid transfer apparatus~~
~~according to claim 1,~~ wherein the connection mechanism comprises:

a capillary support member ~~being brought into~~ adapted for hermetic contact with an outer periphery of the capillary, wherein the capillary support member has an
elastic member for hermetically securing the capillary; and

a pressure unit removably connected to the capillary support member, wherein the pressure unit forms a hermetic space between the other end of the capillary and the pressure mechanism when connected to the capillary support

member, wherein the pressure unit has a first pressure chamber with a diaphragm on one wall surface thereof for pressurizing an inside of the capillary from the other end of the capillary, and wherein the pressure mechanism has an urging member for urging the diaphragm toward the first pressure chamber and pressurizing an inside of the first pressure chamber.

4. (Currently Amended) The liquid transfer apparatus according to claim ~~3~~1, wherein ~~the capillary support member has an elastic member for hermetically securing the capillary, and the pressure unit comprises~~ has a first pressure chamber with a diaphragm on one wall surface thereof for pressurizing the inside of the capillary from the other end of the capillary, an O-ring for removably connecting the first pressure chamber to the capillary support member, and a second pressure chamber connected to the pressure mechanism for urging the diaphragm toward the first pressure chamber and pressurizing the inside of the first pressure chamber.

5. (Currently Amended) The liquid transfer apparatus according to claim 3, wherein ~~the capillary support member has an elastic member for hermetically securing the capillary and the pressure unit comprises~~ has a first pressure chamber with a diaphragm on one wall surface thereof for pressurizing the inside of the capillary from the other end of the capillary, and an O-ring for removably connecting the first pressure chamber to the capillary support member, and wherein the pressure mechanism has a urging member for urging the diaphragm toward the first pressure chamber and pressurizing the inside of the first pressure chamber.

6. (Currently Amended) A liquid transfer apparatus comprising:
a capillary for aspirating liquid from one end thereof by means of capillarity;
a pressure mechanism for pressurizing an inside of the capillary from an other
end of the capillary~~The liquid transfer apparatus according to claim 3, wherein the~~
pressure mechanism has a heater attached to an outer wall of the pressure unit for
heating an internal pressure of the pressure unit;
a connection mechanism for bringing the other end of the capillary into at
least one of: an ambient pressure state and a state in which the other end of the
capillary is connected to the pressure mechanism, wherein the connection
mechanism comprises:
a capillary support member in hermetic contact with an outer periphery of the
capillary; and
a pressure unit removably connected to the capillary support member,
wherein the pressure unit forms a hermetic space between the other end of the
capillary and the pressure mechanism when connected to the capillary support
member.

7. (Cancelled)

8. (Cancelled)

9. (Cancelled)

10. (Cancelled)

11. (Cancelled)

12. (New) The liquid transfer apparatus according to claim 3, wherein the connection mechanism comprises:

a hermetic space formation member for forming the hermetic space between the other end of the capillary and the pressure mechanism; and

a switching mechanism for bringing the hermetic space into one of: a sealed state and an ambient pressure state by means of switching action thereof.

13. (New) The liquid transfer apparatus according to claim 6, wherein the connection mechanism comprises:

a hermetic space formation member for forming the hermetic space between the other end of the capillary and the pressure mechanism; and

a switching mechanism for bringing the hermetic space into one of: a sealed state and an ambient pressure state by means of switching action thereof.

14. (New) The liquid transfer apparatus of claim 1, wherein the pressure unit further comprises a solenoid for urging the diaphragm toward the first pressure chamber for pressurizing the inside of the capillary.

15. (New) The liquid transfer apparatus of claim 1, wherein said capillary is one of a plurality of capillaries, wherein the pressure unit further comprises a plurality of first pressure chambers and a plurality of diaphragms, each of said

diaphragms being associated with one of said plurality of first pressure chambers, each of said plurality of first pressure chambers and each of said plurality of diaphragms being associated with one of said plurality of capillaries so as to cover the other ends of the capillaries and thereby form a plurality of hermetic spaces.

16. (New) The liquid transfer apparatus of claim 15, wherein each of said plurality of first pressure chambers further comprises a solenoid for urging the associated diaphragm toward the first pressure chamber for pressurizing the inside of the associated capillary.

17. (New) The liquid transfer apparatus of claim 3, wherein the pressure unit further comprises a solenoid for urging the diaphragm toward the first pressure chamber for pressurizing the inside of the capillary.

18. (New) The liquid transfer apparatus of claim 3, wherein said capillary is one of a plurality of capillaries, wherein the pressure unit further comprises a plurality of first pressure chambers and a plurality of diaphragms, each of said diaphragms being associated with one of said plurality of first pressure chambers, each of said plurality of first pressure chambers and each of said plurality of diaphragms being associated with one of said plurality of capillaries so as to cover the other ends of the capillaries and thereby form a plurality of hermetic spaces.

19. (New) The liquid transfer apparatus of claim 18, wherein each of said plurality of first pressure chambers further comprises a solenoid for urging the

associated diaphragm toward the first pressure chamber for pressurizing the inside of the associated capillary.

20. (New) The liquid transfer apparatus of claim 6, wherein the pressure unit further comprises a solenoid for urging the diaphragm toward the first pressure chamber for pressurizing the inside of the capillary.

21. (New) The liquid transfer apparatus of claim 6, wherein said capillary is one of a plurality of capillaries, wherein the pressure unit further comprises a plurality of first pressure chambers and a plurality of diaphragms, each of said diaphragms being associated with one of said plurality of first pressure chambers, each of said plurality of first pressure chambers and each of said plurality of diaphragms being associated with one of said plurality of capillaries so as to cover the other ends of the capillaries and thereby form a plurality of hermetic spaces.

22. (New) The liquid transfer apparatus of claim 21, wherein each of said plurality of first pressure chambers further comprises a solenoid for urging the associated diaphragm toward the first pressure chamber for pressurizing the inside of the associated capillary.

23. (New) A liquid transfer apparatus comprising:
a plurality of capillaries, each having one end, an other end and an inside, each of said capillaries being adapted to aspirate liquid from the one end thereof by means of capillarity;

a plurality of pressure mechanisms, each of said plurality of pressure mechanisms being associated with one of said plurality of capillaries, wherein each of said pressure mechanisms is adapted for pressurizing the inside of the associated capillary from the other end of the capillary; and

a plurality of connection mechanisms, each of said plurality of connection mechanisms being associated with one of said plurality of pressure mechanisms and one of said plurality of capillaries, for bringing the other end of the capillary into at least one of: an ambient pressure state and a state in which the other end of the associated capillary is connected to the associated pressure mechanism, wherein each connection mechanism comprises:

a capillary support member adapted for hermetic contact with an outer periphery of the associated capillary, said capillary support member having an elastic member for hermetically securing the capillary; and

a pressure unit removably connected to the capillary support member, wherein the pressure unit forms a hermetic space between the other end of the associated capillary and the pressure mechanism when connected to the capillary support member, the pressure unit defining a pressure chamber with a diaphragm on one wall surface thereof for pressurizing the inside of the associated capillary from the other end of the capillary, and wherein the plurality of pressure mechanisms are independently operable so as to independently pressurize the associated capillary.

24. (New) The liquid transfer apparatus of claim 23, wherein each of the pressure units comprise an O-ring for removably connecting the associated pressure chamber to the capillary support member.

25. (New) The liquid transfer apparatus of claim 23, wherein each pressure unit further comprises a solenoid for urging the associated diaphragm toward the associated pressure chamber for pressurizing the inside of the associated capillary.